

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PCT 1198-00129/mmb	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP00/06707	International filing date ( <i>day/month/year</i> ) 13 July 2000 (13.07.00)	Priority date ( <i>day/month/year</i> ) 14 July 1999 (14.07.99)
International Patent Classification (IPC) or national classification and IPC B29C 44/42, 45/54, 45/53		
Applicant DEMAG ERGOTECH GMBH		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of _____ sheets.</p>	
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input checked="" type="checkbox"/> Certain observations on the international application</p>	

Date of submission of the demand 22 November 2000 (22.11.00)	Date of completion of this report 10 April 2001 (10.04.2001)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

**I. Basis of the report**

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

- ☒ the international application as originally filed.
- ☒ the description, pages 1-10, as originally filed,  
pages \_\_\_\_\_, filed with the demand,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☒ the claims, Nos. 1-22, as originally filed,  
Nos. \_\_\_\_\_, as amended under Article 19,  
Nos. \_\_\_\_\_, filed with the demand,  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☒ the drawings, sheets/fig 1/1, as originally filed,  
sheets/fig \_\_\_\_\_, filed with the demand,  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP 00/06707

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1 - 22	YES
	Claims		NO
Inventive step (IS)	Claims	1 - 22	YES
	Claims		NO
Industrial applicability (IA)	Claims	1 - 22	YES
	Claims		NO

### 2. Citations and explanations

1. Claim 1 relates to an injection moulding device for foamable materials; taking as the point of departure the closest prior art cited on page 2, paragraph 2 of the present description, the pressure chamber of said device is configured in a particular way.

1.1 Said configuration of the pressure chamber cannot be derived from the available prior art and is not considered obvious *per se*.

1.2 An injection moulding device for foamable materials, comprising a pressure chamber 179 formed by two axially displaceable rectangular bars 175, 176 within a housing 160, 162, 163, 166, is known from US-A-3 819 313 (D1) (Figures 7-9).

Said arrangement allows symmetrical injection via a plurality of injection apertures 147, which are disposed in a level surface for adaptation to the different components to be produced. Replacing said arrangement with a pressure cylinder and pistons is

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considered non-obvious since a plurality of injection moulding apertures in a level surface would no longer be possible.

In the event of a single injection aperture, as in the embodiment according to the present application, D1 envisages a different pressure chamber configuration with only one piston. In this case, too, in view of the way the device according to D1 - see column 7, line 38 to column 9, line 7 - functions, it would not be appropriate to deviate from said configuration and replace it with a pressure chamber as defined in Claim 1.

The above observations lead to the conclusion that the teaching of D1 does not give rise in an obvious manner to the subject matter of Claim 1.

2. Accordingly, the independent Claim 1 and its dependent Claims 2 to 22 satisfy the requirements for novelty and inventive step according to PCT Article 33(1), (2) and (3).
3. All the claims clearly satisfy the requirement for industrial applicability according to PCT Article 33(1) and (4).

## VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. In view of the different mode of operation of the known device, whereby in particular the foaming agent is already dissolved in the material upstream of the pressure chamber, rather than in the chamber itself, D1 cannot represent the starting point for the present application and need not be cited in the introduction to the description.

However, if possible, the description should cite a document which reflects the closest prior art described on page 2, paragraph 2 (PCT Rule 5.1(a)(ii)).

2. In the dependent claims, the phrase "at least one of the previous claims" is unclear and should have been restricted to the claims with which there is a logical connection. For example, in Claim 3 reference to preceding claims should be restricted to Claim 2 since Claim 1 does not relate to the extruder of Claim 3; likewise, in Claim 5 the reference to Claim 4, for example, should be restricted, since the mixing chamber referred to in Claim 5 is not defined until Claim 4.